UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R-037XA039NM

Site Name: Sandy Bottom (subirrigated)

Precipitation or Climate Zone: 7-10'pz

Phase:

Original Site Description Approval:

Site Date:

Site Author:

Site Approval: George Chavez

Approval Date: 2/29/2000

Revisions:

Revision Date: 2/25/2002

Revisor: David Trujillo

Revision Approval:

Approval Date:

Revision Notes: Convert to new Ecological Site format

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on low braided flood plains (inter-channel bars) of the San Juan River. It receives additional moisture from occasional, very brief periods of flooding. Depth to seasonal high water table is 3.5 to 5 feet that also benefits the site. It occurs on all exposures. Slopes range from 0 to 2 percent. Elevations range from 4,600 to 5,000 feet.

Land Form:

1. Low braided fllood plains (inter-channel bars)
2.
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	4,600	5,000
Slope (percent)	0	2
Water Table Depth (inches)	42	60

Flooding:	Minimum	Maximum
Frequency	Occasional	Occasional
Duration	Very brief	Brief

Ponding:	Minimum	Maximum
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to Very low

CLIMATIC FEATURES

Narrative:

Mean annual precipitation varies from 7 to 10 inches. About 60 percent of this moisture come as rain during the months of April through October. May and June are the driest months. Most of the moisture from November through March comes as snow. Winds of high velocity during late winter and early spring are common.

Mean temperatures for the hottest month, July, are about 83^0 F. The coldest month is January, when the mean temperature is about 27^0 F. Extreme temperatures of 104^0 F. for a high and -17^0 F. for a low have been recorded. Frost-free period ranges from 140 to 160 days.

The cool-season plants start growth in March and end with plant maturity and seed dissemination about mid-June. During June, July, August and September, the warm-season plants make optimum growth taking advantage of the warm temperature and moisture from tropical air out of the Gulf of Mexico. About 40 percent of the total precipitation is received during these summer months. The other 60 percent received during the fall-winter-spring months influence cool-season plants.

	Minimum	Maximum
Frost-free period (days):	140	160
Freeze-free period (days):	145	165
Mean annual precipitation (inches):	7	10

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.52	.62	11	42.6
February	.43	.63	17.3	50.9
March	.45	.72	22.2	60.1
April	.46	.55	28.1	69.8
May	.38	.56	36.6	79.2
June	.27	.66	45.8	89.2
July	.58	1.43	53.9	94
August	.95	1.62	52	91.1
September	.83	1.28	43.5	83.7
October	.84	1.15	31.2	71.8
November	.66	.76	20.6	54.9
December	.59	.71	12.4	43.8

Climate Stations:

				Period		
Station ID	298284	Location	Shiprock NM	From: 1961	To:	1990
Station ID	293340	Location	Fruitland 2 E, NM	From: 1961	To:	1990
Station ID	293134	Location	Farmington 3 NE, NM	From: 1961	To:	1990
Station ID	291647	Location	Chaco Canyon Natl. Mon, NM	From: 1961	To:	1990
Station ID	296465	Location	Otis, NM	From: 1961	To:	1990
Station ID		Location		From:	To:	

INFLUENCING WATER FEATURES

Narrative:

The soils of this site are on nearly level flood plains along perennial and intermittent rivers and streams. The plant community is directly influenced by the depth of the water table and occasional periods of flooding that are typical of this site. Depth to a seasonal high water table fluctuates from approximately 3.5 to 5 feet. Vegetation benefits from additional moisture from summer flooding and capillary rise above the fluctuating water table. Fremont cottonwood and New Mexico olive are native species typical of this site. Other non-native species include Russian olive and saltcedar.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

B5c,

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils are very deep and moderately well drained. Surface textures include loamy sand. The subsoil has textures of loamy fine sand, gravelly coarse sand and sand. Permeability is moderately rapid. Available water capacity is very low. Runoff is negligible to very low and the hazard of water erosion is none to very slight. The hazard of soil blowing is severe. The soils are very slightly saline (EC 2-4), slightly to moderately alkaline (pH 7.4-8.4) and non sodic (SAR 0-5).

Characteristic taxonomic units are:

Shiprock SSA:

142-Bebeevar-Walrees complex (Bebeevar part)

Other soils included are:

Parent Material Kind: Alluvium

Parent Material Origin: Sandstone, granite and quatzite

Surface Texture:

1. Loamy sand
2.
3.

Surface Texture Modifier:

1. None
2.
3.

Subsurface Texture Group: Sandy

Surface Fragments <=3" (% Cover): 0-5

Surface Fragments >3" (% Cover): 0-10

Subsurface Fragments <=3" (%Volume): 0-45

Subsurface Fragments >=3" (%Volume): 0-10

	Minimum	Maximum
Drainage Class:	Moderately Well	Moderately Well
Permeability Class:	Moderately rapid	Moderately rapid
Depth (inches):	>60	>60
Electrical Conductivity (mmhos/cm):	2	4
Sodium Absorption Ratio:	0	5

Soil Reaction (1:1 Water):	7.4	8.4
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	2	2
Calcium Carbonate Equivalent (percent):	1	5

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 Narrative Label: HCPC

Plant Community Narrative:
This site has a plant community made up primarily of mid grasses, shrubs and Fremont cottonwood trees. Forbs are a minor part of the site. Plant species most likely to invade or increase on this site when it deteriorates are cheatgrass, annual weeds, threadleaf rubber rabbitbrush, saltcedar and Russian olive.

Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	
Bare ground	
Surface cobble and stone	
Litter (percent)	
Litter (average depth in cm.)	

Plant Community Annual Production (by plant type):

	Annual Production (lbs/ac)		
Plant Type	Low	RV	High
Grass/Grasslike	390	975	1105
Forb	30	75	85
Tree/Shrub/Vine	180	450	510
Lichen			
Moss			
Microbiotic Crusts			
Totals	600	1500	1700

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	DISP	Inland saltgrass	225-300	225-300
2	SPAI	Alkali sacaton	225-300	225-300
3	ACHY	Indian ricegrass	75-150	75-150
4	SPCR	Sand dropseed	15-75	15-75
5	ELEL5	Bottlebrush squirreltail	0-30	0-30
6	PASM	Western wheatgrass	0-75	0-75
7	2GP	Other perennial grasses	0-75	0-75

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
8	2FP	Perennial forbs	15-45	15-45
9	2FA	Annual forbs	0-30	0-30

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	GUSA2	Broom snakeweed	15-45	15-45
11	POFR2	Fremont cottonwood	75-150	75-150
12	TARA	Saltcedar*	15-75	15-75
13	ERNAC2	Threadleaf rubber rabbitbrush	15-75	15-75
14	ARTR2	Basin big sagebrush	0-30	0-30
15	ELAN	Russian olive*	0-45	0-45
16	FONE	New Mexico olive	0-30	0-30
17	2SHRUB	Other shrubs	0-75	0-75

* Introduced plant now part of the potential plant community

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Growth Curves

Growth Curve ID

Growth Curve Name: 037XA-1

Growth Curve Description: Average PrecipitationYear

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
7	6	7	6	6	5	11	14	12	12	8	7

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

This wetland site attracts many species of upland and wetland wildlife, which use this site for nesting, feeding and resting. It is a possible nesting and hunting area for the bald eagle and peregrine falcon.

Hydrology Functions:

This site normally receives approximately 7-10 inches annual precipitation. Most summer rainfall occurs as brief sometimes-heavy thunderstorms. Slopes range from 0-2 percent. . Runoff is negligible to very low and the hazard of water erosion is none to very slight. . The depth to seasonal high water table is 3.5 to 5 feet. Capillary water rises from a fluctuating water table in early spring. The site is subject to occasional very brief periods of flooding between June and September.

Recreational Uses:

Cottonwood trees and understory shrubs and grasses attract many wildlife species making it especially suited to birdwatching, wildlife observation and hunting.

Wood Products:

This site has no significant value for wood products.

Other Products:

Grazing: This site is suitable for yearlong grazing by all classes of livestock. Planned grazing systems adapt well to use on this site. When the inter-channel bars are in flood stage, it can cause a hazard to livestock. The soils have a high wind erosion hazard rating leaving overgrazed areas especially susceptible to accelerated erosion.

Other Information:

Plant Preference by Animal Kind:

	Code	Species Preference	Code
Stems	S	None Selected	N/S
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruit/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Inland saltgrass	Distichlis spicata	EP	D	D	D	D	D	D	D	D	U	U	U	D
Alkali sacaton	Sporobolus airoides	EP	D	D	D	D	D	D	D	D	D	D	D	D
Indian ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	D	D	D	P	P	P	P
Sand dropseed	Sporobolus cryptandrus	EP	D	D	D	D	D	D	D	D	D	D	D	D
Bottlebrush squirreltail	Elymus elymoides	EP	P	P	P	D	D	D	D	D	D	D	D	D
Western wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Perennial forbs		EP	P	P	P	P	P	P	P	P	P	P	P	P
Annual forbs		EP	P	P	P	P	P	P	P	P	P	P	P	P
Broom snakeweed	Gutierrezia sarothrae	EP	U	U	U	U	U	U	U	U	U	U	U	U
Fremont cottonwood	Populus fremontii	L	U	U	U	U	U	U	U	U	U	U	U	U
Saltcedar*	Tamarix ramosissima	L	U	U	U	U	U	U	U	U	U	U	U	U
Threadleaf rubber rabbitbrush	Ericameria nauseosa ssp. consimilis	S, L	U	U	U	U	U	U	U	U	U	U	U	U
Basin big sagebrush	Artemisia tridentata	S, L	U	U	U	U	U	U	U	U	U	U	U	U
Russian olive*	Elaeagnus angustifolia	L	U	U	U	U	U	U	U	U	U	U	U	U
New Mexico olive	Forestiera pubescens var. pubescens	L	U	U	U	U	U	U	U	U	U	U	U	U

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

Inventory Data References (narrative):

The potential historic climax plant community has been determined by study of range relict areas, or areas protected from excessive grazing. Trends in plant communities going from heavily grazed areas to lightly grazed areas, seasonal use pastures and historical accounts have also been used

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

State Correlation:
This site has been correlated with the following sites: _____

Type Locality:
State: NM
County: San Juan
Latitude: _____
Longitude: _____
Township: 30N
Range: 17W
Section: 33
Is the type locality sensitive? Yes ☐ No ☒
General Legal Description: Shiprock topographic quadrangle- about 3 miles east of Shiprock, NM, north side of San Juan River – Section 33, Township 30N, Range 17W-Navajo Reservation, NM.

Relationship to Other Established Classifications:

Other References: